

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER No. 92-91  
NPDES PERMIT CA0037958  
REISSUING WASTE DISCHARGE REQUIREMENTS FOR:  
NOVATO SANITARY DISTRICT  
NOVATO, AND IGNACIO PLANTS  
MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. Novato Sanitary District, (hereinafter called the Discharger), submitted a report of waste discharge dated 1/2/90 for reissuance of NPDES Permit CA0037958.
2. The discharger presently discharges an average dry weather flow of 4.8 million gallons per day from the Novato and Ignacio plants into San Pablo Bay, a water of the State and United States. The treated wastewater is discharged through an outfall about 950 feet offshore at Latitude 122 deg. 29 min. 00 sec. and Longitude 39 deg. 04 min. 00 sec.

3. The Novato plant contains the following treatment units:

Primary clarification, activated sludge, secondary clarification, nitrification, gravity filtration, disinfection with chlorine and dechlorination. The treatment processes vary depending on influent flow.

Average Dry Weather Flow (up to 4.53 mgd) :

- Tertiary treatment with all unit processes

Wet weather flows:

- All flows up to 9 mgd receive complete tertiary treatment.
- Flows between 9 mgd and 16 mgd receive only primary treatment plus gravity filtration and disinfection.
- All flows above 16 mgd receive only gravity filtration and disinfection.

4. The Ignacio plant contains the following treatment units:

Primary clarification, biofiltration, secondary clarification, nitrification, gravity filtration and disinfection. The treatment processes vary depending on influent flow.

**Average Dry Weather Flow (up to 2.02 mgd) :**

- Tertiary treatment with all unit processes

**Wet weather flows:**

- All flows up to 4.04 mgd receive complete tertiary treatment.
- All flows above 4.04 mgd receive only primary treatment plus nitrification, gravity filtration and disinfection.

5. The flows from both plants join a combined outfall where the effluent is dechlorinated prior to discharge during the months of September through May. From June 1 through August 31 the combined effluent is discharged to storage ponds for sprinkler irrigation of District controlled pasture lands.
6. The facilities are designed to produce an effluent with an average of 15 mg/l BOD and 10 mg/l suspended solids for dry weather flows. The annual BOD and TSS of the combined effluent has historically been 11 mg/l and 7 mg/l respectively. At higher flows, the effluent may have an average of up to 30 mg/l for BOD and suspended solids.
7. Both plants have primary and secondary anaerobic digesters for sludge digestion, followed by storage ponds for thickening. The thickened sludge is applied on a 14.4 acre dedicated land disposal site at the reclamation area.
8. The discharger operates a reclamation system which includes two storage ponds for treated wastewater and discharge of the treated wastewater through spray irrigation of 820 acres of pasture. The pasture is currently grazed by beef cattle.
9. The discharger has created a freshwater wildlife pond as mitigation for the loss of wetlands. This pond is maintained with treated wastewater.
10. The discharge is presently governed by Waste Discharge Requirements, Order No. 85-32 adopted on April 15, 1985, which allows discharge into San Pablo Bay.
11. The Board has adopted waste discharge requirements covering the dry weather reclamation in Order No. 80-17.
12. The Board has adopted waste discharge requirements covering sludge storage and disposal in Order No.84-36..
13. The State Water Resources Control Board (State Board) adopted the California Inland Surface Waters Plan and the California Bays and Estuaries Plan on April 11, 1991. These Plans identify water quality objectives for all inland surface waters and enclosed Bays and estuaries in the state, and strategy for implementation of the objectives. These plans require the water quality objectives to be implemented in discharger's Waste Discharge Requirement permits.

14. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (referred to in this permit as the Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for Central San Francisco Bay and contiguous waters.
15. The Board adopted amendments to the Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 11, 1991. On July 16, 1992, the State Water Resources Control Board (State Board) remanded the amendments to the Regional Board based on a procedural concern (Order 92-55). In addition, several provisions in the amendments were identified as inconsistent with the Statewide Plans. However, the State Board did not comment on the provisions referred to in this Tentative Order. An exception is the proposed effluent limitation for cyanide, which will be reconsidered by the Regional Board due to public comment during the State Board's hearing (see finding 24 d). The amendments adopted by the Regional Board in December, 1991 are referred to below as the "proposed Basin Plan".
16. The beneficial uses of San Pablo Bay are:
  - o Contact and Non-Contact water recreation
  - o Wildlife habitat
  - o Preservation of rare and endangered species
  - o Estuarine habitat
  - o Warm fresh water and cold fresh water habitat
  - o Fish spawning and migration
  - o Industrial service supply
  - o Shellfishing
  - o Navigation
  - o commercial and sport fishing
17. The Discharge does not receive an initial dilution of 10:1 at all times. The discharger's outfall is located in the intertidal zone and is submerged at tides of +1 foot Mean Lower Low Water (MLLW). At lower tides the outfall is exposed and the water line can range from 1000 to 3500 feet from the end of the diffuser.
18. The Basin Plan Discharge Prohibition No.1 states "It shall be prohibited to discharge any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any nontidal water, dead-end slough, similar confined waters, or any tributary thereof.

Exceptions to the Basin Plan prohibitions may be considered where the discharger can show (1) a net environmental benefit as a result of the discharge, or (2) that the project is part of a reclamation project, or (3), that the discharge will provide equivalent protection.

19. An exception to Discharge Prohibition No.1 is warranted based on the discharger's operation of a reclamation program. This Order (and the previous Order) prohibits discharge to the Bay from June through August. The three month discharge prohibition results in reclamation of approximately 25% of the Average Dry Weather Flow (ADWF).
20. The proposed Basin Plan contains new effluent limitations for selected toxic pollutants such as heavy metals, including more stringent limits for discharges to shallow waters. The shallow water toxic substance effluent limits are based on a dilution ratio (effluent to receiving water) of 0. For cases where compliance with the new limits, located in Table IV-1A of the proposed Basin Plan, is not immediately feasible, the proposed Basin Plan includes criteria under which a discharger may apply for an exception to the assigned dilution ratio of zero. Exceptions are considered only where an aggressive pretreatment program is in place and compliance with water quality objectives is obtained in the receiving waters within 250 feet of the discharge point.
21. The discharger has not met the criteria in finding No. 20 above. Thus, the discharger does not qualify for an exception to the Table IV-1A shallow water effluent limits. Therefore, the new shallow water effluent limits are applicable to the surface water discharges governed by this Order. If the discharger elects to apply for an exception to the zero dilution ratio, this permit will be amended to incorporate the required provisions.
22. Salinity measurements in the vicinity of the discharge have indicated that the receiving water exceeds 5 parts per thousand at least 75% of the time. The proposed Basin Plan specifies that marine effluent limitations shall apply for discharges to water with salinities exceeding 5 ppt at least 75% of the time. The discharger has submitted data demonstrating that the receiving waters in the vicinity of their outfall satisfy the salinity requirements for marine effluent limitations. Therefore, this permit incorporates Table IV-1A, Marine Water Effluent Limitations for Shallow Water.
23. The revised Basin Plan allows discharge permits to distinguish between effluent limitations that are met by current performance of the facility and effluent limitations not currently attained. Immediate compliance is required for effluent limitations that are met by current performance. This permit requires compliance with effluent limitations not currently attained by August 15, 1993.
24. A review of the discharger's effluent monitoring data has indicated that the discharger will be able to comply with the marine shallow water effluent limits for arsenic, cadmium, chromium, lead, nickel, silver, zinc and phenols. The data further indicates that the discharger will not be able to comply with the new shallow water limits for copper. The discharger's ability to comply with the cyanide, mercury, selenium, PAH and the remaining organic constituent limits cannot be predicted due to detection limit problems or insufficient data. Based on the available monitoring data, this Order implements the Basin Plan provisions as follows:

- a. Requires immediate compliance for effluent limitations that are met by current performance (arsenic, cadmium, chromium, lead, nickel, silver, zinc, and phenols.)
  - b. Sets interim limits in effect from August 19, 1992 to August 15, 1993 for cyanide, mercury and PAHs. Monitoring data is available for these constituents, but compliance with the final limits cannot be evaluated due to detection limit problems. The interim limits for cyanide and mercury are based on the detection limits currently being achieved by the discharger using EPA methods as specified in SW-846, Third Edition. The PAH interim limit is based on the aquatic life water quality objective.
  - c. Requires compliance with Basin Plan Table IV-1A limits by August 15, 1993 for the metals and organics whose compliance could not be evaluated due to insufficient monitoring data (mercury, cyanide, selenium, PAHs and all organic toxic substances not regulated by the 1986 Basin Plan). This Order requires that monitoring for these constituents be performed to evaluate compliance with the shallow water limits.
  - d. Sets the final cyanide permit limit at 5 ppb. The Statewide plan does not currently contain a cyanide limit. 5 ppb is the limit currently being proposed in the proposed Basin Plan. The 1986 Basin Plan sets the water quality objective at 5 ppb because this is the limit of detection. If the Statewide Plan or Basin Plan adopts a limit significantly different from 5ppb, this new limit will be incorporated into the permit by amendment.
  - e. Institutes a compliance schedule for the discharger's implementation of an aggressive source control program. Implementation of source control measures to reduce pollutant loadings to the maximum extent practicable shall be completed as soon as possible, but no later than April 11, 1996. Interim limits have been established for those constituents (copper) where it has been established that compliance cannot be achieved through secondary treatment and therefore, source control is necessary. Two interim copper limits have been established. The first limit is in effect from August 19, 1992 to September 1, 1994 and has been established using the 95th percentile performance (using 1987-1991 performance data). The second interim limit is in effect from September 1, 1994 to April 11, 1996 and is the midpoint value from the first interim limit (95th percentile) to the water quality based final limit (2.9 mg/l).
25. The discharger has proposed to expand the Ignacio treatment plant capacity and decrease the flow to the Novato facility. The combined ADWF capacity of the two facilities would increase from 6.55 MGD to 7.12 MGD, a net increase of 0.57 MGD. The requested capacity increase at Ignacio is 1.07 MGD (from 2.02 MGD to 3.09 MGD). There is a predicted decrease of 0.5 MGD (from 4.53 MGD to 4.03 MGD) for the Novato treatment plant. The discharger has submitted an antidegradation assessment and partial capability study. This Order requires the

submittal of additional information including engineering reports documenting the proposed facility capacity and reliability, and demonstration of compliance with CEQA, prior to Board consideration of a capacity increase. Based on this documentation, the Board may grant a conditional capacity increase approval and require performance testing as a final condition of approval.

26. An Operation and Maintenance Manual is maintained by the Discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.
27. The Discharger has implemented and is maintaining an Environmental Protection Agency (EPA) approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR 403) and this Board's Order No. 89-179.
28. Federal Regulations for stormwater discharges were promulgated by the US Environmental Protection Agency on November 16, 1990. The regulations [40 Code of Federal Regulations (CFR) Parts 122, 123 and 124] require specific categories of industrial activities which discharge storm water associated with industrial activity (industrial storm water) to obtain a NPDES permit and to implement Best Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.
29. The State Water Resources Control Board has required industrial facilities to obtain coverage under the SWRCB General Permit or apply for an individual permit by October, 1992. The discharger has petitioned the Board to include storm water regulations in the facility's NPDES permit. This permit includes provisions to regulate storm water discharges. These regulations are consistent with the SWRCB regulations found in General Permit No. CAS000001 for Discharges of Storm Water Associated With Industrial Activities.
30. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) pursuant to Section 13389 of the California Water Code.
31. The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity for a public hearing and the opportunity to submit their written views and recommendations;
32. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the following:

A. Discharge Prohibitions

1. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited.
2. The average dry weather flow shall not exceed a combined ADWF of 6.55 MGD, with the flows apportioned as follows: 4.53 MGD for the Novato plant, and 2.02 MGD for the Ignacio plant. Average dry weather flow shall be determined over three consecutive dry weather months each year.
3. The discharge of wastewater to waters of the State is prohibited from June 1 through August 31 (Executive Officer may grant requested date extension when yearly rainfall is abnormally high).

B. Effluent limitations

The term "effluent" in the following limitations means the fully treated wastewater effluent from the Discharger's wastewater treatment facility, as discharged to San Pablo Bay. These limits apply only during the discharge period to the Bay.

1. Effluent discharged to waters of the State shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>30-day Average</u>	<u>Maximum Daily</u>	<u>Annual (1) Average</u>
a. BOD or (2)	mg/l	15	30	
Carbonaceous	mg/l	10	20	
BOD				
b. Suspended (2)				
Solids	mg/l	10	20	
c. Grease & Oil	mg/l	5	15	
d. Total				
Ammonia				
as N	mg/l	6.0		4.0
e. Settleable				
Solids (2)	ml/l-hr	0.1		

- (1) Annual average shall be calculated as the average of 30-day averages for the months during which discharge is made to waters of the State.
  - (2) Effluent limitations shall be met in the combined effluent from both plants, except for settleable solids, coliform, and pH which shall be met in the effluent from each plant. Influent and effluent concentrations for BOD, Suspended solids, oil and grease, and Ammonia in the combined flow shall be obtained from the weighted average of individual flow concentrations.
2. Chlorine Residual: Chlorine residual shall have an instantaneous maximum of 0.00 mg/l. This limitation shall apply prior to discharge to waters of the state or to the wildlife pond. This requirement is defined as below the limit of detection in standard test methods.
3. BOD and TSS: The monthly average of the biochemical oxygen demand (five-day, 20 degrees centigrade) and suspended solids values, by weight for effluent samples collected during a calendar month, shall not exceed 15 percent of the monthly average of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).
4. pH: The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
5. Total coliform bacteria: The 5 day moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive effluent samples shall not exceed 23 MPN per 100 milliliters (23 MPN/100 ml). Any single sample shall not exceed 240 MPN/100 ml.



6. Acute toxicity: Representative samples of the effluent shall meet the following limit for acute toxicity: [Provision E.4 of this Order describes bioassay methodology requirements]
- a. The survival of organisms in undiluted effluent shall be an eleven sample median value of not less than 90 percent survival, an eleven sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:
- 11 sample median: if five or more of the past ten samples are less than 90 percent survival, then survival of less than 90 percent of the next, eleventh sample represents a violation of the effluent limitation.
  - 90th percentile: If one or more of the past ten samples is less than 70% survival, then survival of less than 70 percent on the next, eleventh, sample represents a violation of the effluent limitation.
7. During the wet weather months of November 1 through April 15, the final effluent limitation for the combined flow from both the Novato and Ignacio plants will be revised as follows:

<u>Constituents</u>	<u>Units</u>	<u>30-day Average</u>	<u>Maximum Daily</u>
a. BOD or	mg/l	30	60
Carbonaceous BOD	mg/l	25	50
b. Suspended Solids	mg/l	30	60
c. Grease & Oil	mg/l	10	20
d. Total Coliform (1)			

- (1) Total coliform bacteria: The 5 day moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive effluent samples shall not exceed 240 MPN per 100 milliliters (240 MPN/100 ml). Any single sample shall not exceed 10,000 MPN/100 ml.

The median coliform value shall be calculated on the basis of samples taken during high wet weather flows for that particular reporting month. Wet weather days are those when the instantaneous flows exceed twice the current dry weather average daily flows for more than 8 hours.

8. TOXIC SUBSTANCES EFFLUENT LIMITATIONS: TO BE IN EFFECT FROM  
AUGUST 19, 1992 THROUGH AUGUST 15, 1993

- a. The effluent shall not exceed the following limits (f) (see Table 1 & 2 footnotes):

TABLE 1  
(All limits in ug/l)

<u>Constituent</u>	<u>Monthly Average (b)</u>	<u>Daily Average (b)</u>	<u>Interim Limit Daily Average</u>
1. Arsenic (a)		36	
2. Cadmium (a)		9.3	
3. Chromium (VI) (a) (c)		50	
4. Copper (j)			46
5. Lead (a)(g)		5.6	
6. Mercury (h)			0.2
7. Nickel (a)(g)		8.3	
9. Silver (a)		2.3	
10. Zinc (a)(g)		86	
21. Cyanide (e) (h)			10
33. PAHS (a)(d)		15	
36. Phenol (a)	30		

9. TOXIC SUBSTANCES EFFLUENT LIMITATIONS: TO TAKE EFFECT AUGUST  
15, 1993

b. The effluent shall not exceed the following limits f)(1)(m):

TABLE 2  
(All limits in ug/l)

<u>Constituent</u>	<u>FINAL LIMITS</u>		<u>INTERIM LIMITS</u>	<u>Interim Limit</u>
	<u>Monthly</u> <u>Average (b)</u>	<u>Daily</u> <u>Average (b)</u>	<u>8/15/93-9/1/94</u> <u>Daily Average</u>	<u>9/1/94-4/1</u> <u>Daily Average</u>
1. Arsenic		36		
2. Cadmium		9.3		
3. Chromium (VI) (c)		50		
4. Copper		2.9	46 (j)	23 (k)
5. Lead (g)		5.6		
6. Mercury	0.03	2.1		
7. Nickel (g)		8.3		
8. Selenium (g)		5		
9. Silver		2.3		
10. Zinc (g)		86		
11. 1,2 Dichlorobenzene (d)	18,000			
12. 1,3 Dichlorobenzene	2,600			
13. 1,4 Dichlorobenzene	64			
14. 2,4,6 Trichlorophenol	1			
15. Aldrin	0.0001			
16. A-BHC	0.01			
17. Benzene	21			
18. B-BHC	0.05			
19. Chlordane (d)	0.0001	0.004		
20. Chloroform	480			
21. Cyanide (e)		5(i)		
22. DDT (d)	0.0006	0.001		
23. Dichloromethane	1,600			
24. Dieldrin	0.0001	0.002		
25. Endosulfan (d)		0.009		
26. Endrin (d)		0.002		
27. Fluoranthene	42			
28. G-BHC (Lindane)	0.062	0.16		
29. Halomethanes (d)	480			
30. Heptachlor	0.0002	0.004		
31. Heptachlor Epoxide	0.0001			
32. Hexachlorobenzene	0.0007			
33. PAHS (d)	0.03	15		
34. PCBS (Total) (d)	0.0001	0.03		
35. Pentachlorophenol (g)		7.9		
36. Phenol	30			
37. TCDD Equivalents (d)	1E-08			
38. Toluene	300,000			
39. Toxaphene (g)		0.0002		
40. Tributyltin	0.005	0.01		

Table 1 and 2 Footnotes:

- a. These limits are based on marine water quality objectives, and are intended to be achieved through secondary treatment and, as necessary, pretreatment and source control.
- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily = 24-hour period; Monthly = Calendar month).
- c. The Discharger may meet this limit as total chromium.
- d. See California Enclosed Bays and Estuaries Plan, April 1991, Definition of Terms.
- e. The Discharger may demonstrate compliance with this limitation by measurement of weak acid dissociable cyanide.
- f. All analyses shall be performed using current EPA Methods, as specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition. Detection limits, practical quantitation levels, and limits of quantitation will be taken into account in determining compliance with effluent limitations. Guidance on these compliance determinations will be developed by the Regional Board during 1992.
- g. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of the four.
- h. This interim limit is based on the detection limits currently being achieved by the discharger using EPA methods as specified in SW-846, Third Edition.
- i. The statewide plan does not currently contain a cyanide limit. 5 ppb is the limit currently being proposed in the revised Basin Plan. The 1986 Basin Plan sets the water quality objective at 5 ppb because this is the limit of detection. If the Statewide Plan or Basin Plan adopts a limit significantly different from 5 ppb, this new limit will be incorporated into the permit by amendment.
- j. This is a performance based limit based on the 95th percentile performance from February 1987-March 1992. This limit is in effect until September 1, 1994.
- k. This limit is an interim limit, in effect until April 11, 1996. The default limits shall be the marine water quality based limits located in the Table 2, Final Limits column. This interim limit is the midpoint value from the first interim limit (95th percentile) to the water quality based final limit. Based on satisfactory progress in the waste minimization program, the discharger may petition the Board to amend this permit to incorporate a different interim limit.

1. The Statewide Plan is not clear as to whether POTWs will be permitted to certify that constituents are not present in their effluent. Regional Board policy will be available prior to the petition deadline below. For constituents 11-20 and 22-40, if future Board policy permits, the discharger may petition the Board to amend this Order to delete constituents which the discharger has certified are not present. The discharger must submit this petition by May 1, 1993.
- m. The discharger may petition the Board to amend this Order to incorporate interim limits where justified by the discharger's inability to meet the Table 2 limit and where the discharger is participating in the waste minimization program for the targeted constituent.

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or aquatic growths;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a. Dissolved Oxygen	5.0 mg/l, minimum.
The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation. When natural factors cause lesser concentrations than those specified above, then the discharge shall not cause further reduction in the ambient concentration of dissolved oxygen.	
b. Dissolved Sulfide	0.1 mg/l, maximum.
c. pH	Variation from normal ambient pH by more than 0.5 pH units.
d. Un-ionized Ammonia	0.025 mg/l as N, annual median; 0.16 mg/l as N, maximum.
3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

#### D. SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

1. All sludge treatment, processing, storage or disposal activities under the Discharger's control shall be in compliance with current state and federal regulations.
2. The Board may amend this Order prior to the expiration date if necessary to accommodate changes in applicable state or federal sludge regulations, or changes in the Discharger's sludge management procedures.
3. The Discharger shall notify the Board, in writing, of any significant changes in its sludge disposal practices.
4. Permanent on-site sludge storage or disposal activities are not authorized by this permit. Sludge storage and disposal are regulated by Order #84-36.
5. The treatment, processing, storage or disposal of sludge conducted by the Discharger shall not create a condition of pollution or nuisance as defined in Section 13050 (l) and (m) of the California Water Code.
6. The treatment, processing, storage or disposal of sludge by the Discharger shall not cause waste material to be discharged to, or deposited in, waters of the State.
7. Sludge storage facilities under the Discharger's control shall be operated and maintained in such a manner as to provide adequate protection from surface runoff, erosion, or other conditions which would cause drainage from the waste materials to escape from the storage facility site(s).
8. The discharge to the Discharger's sludge storage facilities of waste other than sewage sludge produced by the Discharger's wastewater treatment facility is prohibited.
9. The storage of sludge shall not cause degradation of groundwater.

#### E. Provisions

1. Requirements prescribed by this order supersede the requirements prescribed by Order No. 85-32. Order No. 85-32 is hereby rescinded.
2. Where concentration limitations in mg/l or ug/l are contained in this Permit, the following Mass Emission Limitations shall also apply:

(Mass Emission Limit in kg/day) = (Concentration Limit in mg/l) x (Actual Flow in million gallons per day averaged over the time interval to which the limit applies) x 3.78 (conversion factor).

3. The Discharger shall comply with all sections of this Order immediately upon adoption.
4. Bioassays: Compliance with Effluent Limitation B.6 of this Order shall be evaluated by measuring survival of test fishes exposed to undiluted effluent for 96 hours. Each fish species represents a single sample. The dischargers will conduct flow-through effluent toxicity tests.

Two fish species will be tested concurrently. These shall be the most sensitive species determined from a single screening (all tests must be completed within ten days of initiating the first test) of three species: three-spine stickleback, rainbow trout and fathead minnow. This three species screening requirement can be met using either flow-through or static renewal bioassays. The Board may consider allowing compliance monitoring with only one (the most sensitive, if known) fish species, if both the following conditions are met:

- a. The discharger can document that the acute toxicity limitation, specified above, has not been exceeded during the previous three years, or that acute toxicity has been observed in only one of two fish species,

and

- b. A single screening using all three fish species confirms the documented pattern. All tests must be completed within ten days of initiating the first test.
5. The discharger has constructed and maintains a wildlife pond. Waste discharged to the wildlife pond from September 1 through May 31 shall meet all requirements prescribed in this Order if there is to be any discharge from the wildlife pond to San Pablo Bay during this period. At other times, waste discharged to the wildlife pond may meet the reclamation requirements prescribed in a separate order. No discharge to the wildlife ponds shall be made when flows to the treatment plants exceed twice the average dry weather flows.
  6. Waste in the reclamation storage ponds may be discharged through the outfall from September 1 through May 31 only upon satisfying either of the following conditions:
    - a. The discharger receives written approval of the Executive Officer after demonstrating to his satisfaction that such discharge:
      - is necessary for prudent operation and maintenance of the storage and irrigation facilities,
      - will be made in a way that has the least adverse effect on the environment; and



- has received the treatment required in the reclamation requirements.

**OR**

- b. Wastewater discharged to the reclamation ponds shall meet all requirements prescribed in this Order if there is to be any routine discharge from the storage ponds to San Pablo Bay.
7. The discharger has requested a capacity expansion as delineated in Finding No.25. An antidegradation analysis for the requested capacity increase has been submitted. Prior to Board consideration of a capacity increase, the additional information which must be submitted includes, but may not be limited to the following:
- a. Facility capacity and reliability: Engineering reports documenting adequate reliability, capacity and performance of the facility. Dry weather and wet weather performance must be discussed. Based on this documentation, the Board may grant a conditional capacity increase approval and require performance testing as a final condition of approval.
  - b. Plans for including reclamation as an integral part of the wastewater management plan. The discharger must evaluate the alternative of reclaiming the additional wastewater rather than discharging it to the Bay.
  - c. Documentation of compliance with the California Environmental Quality Control Act and any other necessary local permits.
8. The discharger shall initiate a monitoring program at the beginning of the Fall 1992 discharge season, using appropriate EPA methods and detection limits, to evaluate compliance status for all constituents listed in Effluent Limitations Tables 1 and 2. Monitoring for constituents in Table 1 shall be performed monthly. For all other constituents located in Table 2 and not Table 1 (with the exception of TCDD equivalents), monitoring shall be performed for six consecutive months beginning with the Fall 1992 discharge season. TCDD equivalents shall be monitored twice during a six month period. The attached Self monitoring program (SMP) requires varied monitoring for the majority of organic constituents in Table 2. Upon evaluation of this intensive six month monitoring program, the SMP may be amended to change the monitoring frequencies.
9. The discharger shall submit a status report documenting the results of the monitoring done pursuant to Provision No.8 above. The report shall include an evaluation of compliance with the effluent limitations for each constituent. If the monitoring results document that the effluent cannot meet the limits to take effect

August 15, 1993, the discharger may petition for interim limits. This petition shall be submitted no later than June 1, 1993.

<u>Task</u>	<u>Deadline</u>
The discharger shall submit monitoring report.	May 15, 1993

10. Source Control and Waste Minimization: The proposed Basin Plan requires full compliance with Table IV-1A Effluent limits by June, 1993. Longer compliance periods may be allowed if the Discharger institutes an aggressive waste minimization program. The primary goal in setting compliance schedules is to promote the completion of source control and waste minimization measures, including water reclamation. In accordance with this requirement the discharger shall implement the actions described below.
- a. The discharger shall promote and encourage increased reclamation to reduce the amount of discharge to San Pablo Bay during the period from September 1 through May 31.
  - b. The discharger shall continue to implement and expand its waste minimization program. The discharger shall submit annual reports (beginning February 15, 1993) that document its efforts and present an evaluation of the program's success. The discharger shall target, copper and all other constituents found to be not in compliance with the Table IV-1A limits.
  - c. The discharger shall participate in the targeted waste minimization program as described in the Basin Plan Chapter IV, Waste Minimization Section.
  - d. The discharger shall complete the following tasks according to the specified compliance schedules.

<u>Task</u>	<u>Deadline</u>
Phase I	
Completion of a Copper Source Identification Study	May 15, 1993
Develop a plan for reduction of copper in the water supply. This is a conceptual plan which identifies problems and alternatives to current water treatment methods. Upon development of this plan, any steps which can be initiated immediately without Phase II planning described below, shall be initiated as soon as practicable.	May 15, 1993
Phase II	
Develop and begin to implement a source reduction action plan for copper in the water supply and other sources. This plan shall identify specific actions and establish a time schedule for these actions.	September, 1993
Complete Implementation of the Source Reduction plan to reduce pollutant loading to the maximum extent possible.	April 1, 1996

11. The Discharger shall implement and enforce its approved pretreatment program in accordance with this Board's Order No. 89-179 and its amendments thereafter. The discharger's responsibilities include, but are not limited to, the following:
  - a. Implementation of the pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the General Pretreatment Regulations (40 CFR 403) and the Discharger's approved pretreatment program including subsequent modifications to the program.
  - b. Enforcement of National Pretreatment Standards ( e.g. prohibited discharges, categorical Pretreatment Standards, and local limits) in accordance with 40 CFR 403.5, and Sections 307(b) and 307(c) of the Clean Water Act.
  - c. Submission of annual and quarterly reports to the EPA, State Board, and the Board as described in this Board's Order No. 89-179 and its amendments thereafter.

12. The discharger shall comply with the following requirements, and any amendments thereto, in order to provide appropriate control of stormwater discharges associated with the discharger's facility. The requirements identified below are contained in the State Board's NPDES General Permit No CAS000001 for Discharges of Storm Water Associated With Industrial Activities, adopted November 19, 1991, which is found in Appendix B:

a. Findings	1,4, 6,7,8,10-16
b. Receiving Water Limitations	1,2
c. Discharge Prohibitions	1-4
d. Provisions	2,3,5,6
e. Sections	A,B,C

13. The Discharger shall comply with the attached Self-Monitoring Program. The Board's Executive Officer may make minor amendments to this Self-Monitoring Program pursuant to federal regulations (40 CFR 122.63).
14. The Discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements" dated December, 1986.
15. The Discharger shall review and update its Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year.
16. The Discharger shall review and update by December 31, annually, its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or implement a contingency plan will be the basis for considering such a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
17. In reviewing compliance with the limits of Effluent Limitations B.3 and B.7.(1) of this Order, the Board will take special note of the difficulties encountered in achieving compliance during periods of high wet weather flow.
18. This Order expires August 19, 1997. The Discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
19. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on August 19, 1992.

  
STEVEN R. RITCHIE  
Executive Officer

Attachments:

Standard Provisions and Reporting  
Requirements, December 1986  
Self-Monitoring Program  
SWRCB General Permit CAS000001  
Board Resolution 74-10

[File No. 2159.5022]  
[Originator/LCF]  
[Reviewer/RJC]



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

NOVATO SANITARY DISTRICT

MARIN COUNTY

NPDES PERMIT NO. CA0037958

ORDER NO. 92 - 91

CONSISTS OF

PART A, dated December 1986

AND

PART B

## PART B

### I. DESCRIPTION OF SAMPLING STATIONS

NOTE: A sketch showing the locations of the stations described below shall accompany each monthly report, and the Annual report for each calendar year.

#### A. INFLUENT AND INTAKE

<u>Station</u>	<u>Description</u>
A-001	At any point in the Ignacio treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.
A-002	At any point in the Novato treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

#### B. EFFLUENT

<u>Station</u>	<u>Description</u>
<u>1. Ignacio Plant</u>	
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same as E-001-D)
E-001-D	At any point in the disinfection facilities for Waste E-001 at which adequate contact with the disinfectant is assured.
<u>2. Novato Plant</u>	
E-002	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same as E-001-D)



E-002-D                    At any point in the disinfection facilities for Waste E-001 at which adequate contact with the disinfectant is assured.

3. Combined Effluent

E-003-S                    At any point in the outfall downstream of the dechlorination point, containing the effluents from the Novato and Ignacio facilities.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in San Pablo Bay, located on line with the outfall and as close as possible to shore.
C-2	At a point in San Pablo Bay, located over the geometric center of the diffuser.
C-3	At a point in San Pablo Bay, located on line with the outfall and approximately 300 feet southeasterly of C-2.
<u>C-4</u>	At a point in San Pablo Bay, located on line with the outfall and approximately 300 feet Northeasterly of C-2.
<u>C-R</u>	At a point in San Pablo Bay, located approximately 4000 feet northerly of the outfall and as close to shore as possible.

D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 thru P-3	Located along the downwind portion of the perimeter fenceline surrounding each of the treatment facilities. ( A sketch showing the locations of these stations will accompany each report).

#### E. OVERFLOWS AND BYPASSES

##### Station

##### Description

OV-'n

At points in the collection system including manholes, pump stations, or any other location where overflows or bypasses occur.

#### NOTE:

1. A map and description of each known or observed overflow or bypass location shall accompany each monthly report. A summary of these occurrences and their locations shall be included with the Annual Report for each calendar year.
2. Each occurrence of a bypass or overflow shall be reported to the Regional Board in accordance with the reporting requirements specified in Sections G.1 and G.2 of Self-Monitoring Program Part A.

#### II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given in Table I and Table 1 Footnotes.

#### III. MODIFICATION OF PART A, DATED DECEMBER 1986

Paragraph C.5 of Part A is revised to read:

Average monthly values are calculated as the sum of all measured discharges by weight (measured during the specified period ie. calendar month), divided by the number of daily discharge values measured during that specified period.


#### IV. REPORTING REQUIREMENTS

- A. General Report Requirements are described in Section C of this Board's "Standard Provisions and Reporting Requirements", dated December 1986.
- B. Self-Monitoring Reports for each calendar month shall be submitted monthly, by the fifteenth day of the following month. The required contents of these reports are described in Section G.4 of Part A.
- C. An Annual Report for each calendar year shall be submitted to the Board by February 15th of the following year. The required contents of the annual report are described in Section G.5 of Part A.

- D. Any overflow, bypass or significant non-compliance incident that may endanger health or the environment shall be reported according to Sections G.1 and G.2 of Part A.
- E. Revisions to the Discharger's Operations and Maintenance Manual, or a letter stating that no changes are needed shall be submitted to the Board by April 15 of each year (Provision E.16).
- F. Revisions to the Discharger's Contingency Plan, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year (Provision E.17).

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- 1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 92-91.
- 2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be authorized by the Executive Officer.
- 3. Is effective on the date shown below.

  
STEVEN R. RITCHIE  
Executive Officer

Effective Date

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Attachment:

- A. Table 1 with Table 1 Footnotes

TABLE 1 (2)

## SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

SAMPLING STATION		A-001 A-002	E-001 E-002		E-001-D E-002-D		E-003-S		All C Sta	All P	All OV
		C-24	G	C-24	Cont	G	C-24	C-24	Cont		
TYPE OF SAMPLE											
	Foot- note	2	2	2	2	2	2		2		9
Flow Rate (m <sup>3</sup> /s)	3				D						
BOD, 5-day, 20°C (mg/l & kg/day)		W		3/W							
Total Suspended Solids (mg/l & kg/day)		W		3/W							
Settleable Solids (ml/l-hr)			D								
Oil and Grease (mg/l & kg/day)	4	2M	M								
Chlorine Residual, & Residue (mg/l & kg/day)	5							Cont. or 2H			
Coliform, Total (MPN/100 ml)						3/W					
Toxicity, 96-hr Bioassay (% Survival)	6							M			
Turbidity (NTU)			M								
pH (units)			D							Q	
Temperature (°C)			D							Q	
Dissolved Oxygen (mg/l & % Saturation)			D							Q	
Sulfides, Total & Dissolved (if DO < 2.0 mg/l) (mg/l)			D								
Ammonia Nitrogen (mg/l & kg/day)				W						Q	
Nitrate Nitrogen (mg/l & kg/day)											
Nitrite Nitrogen (mg/l & kg/day)											
Total Organic Nitrogen (mg/l & kg/day)											
Total Phosphate (mg/l & kg/day)											
Un-ionized Ammonia Nitrog. (mg/l as N)										Q	
Total Dissolved Solids (mg/l)											
Chlorides (mg/l)											
Hardness (mg/l as CaCO <sub>3</sub> )											
Chlorophyll-a (µg/l)											
All Applicable Standard Observations											W
Salinity											

TABLE 1

## SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

SAMPLING STATION		A-001 & A-002	E-001 & E-002		E-001-D & E-002-D		E-003-S		All C Sta			
TYPE OF SAMPLE		C-24	G	C-24	Cont	G	C-24	C-24	Cont			
	Foot- note	1	2	2	2	2	2		2		1	1 1 2
Arsenic (mg/l or ug/l, & kg/day)	7						M					
Cadmium (mg/l or ug/l, & kg/day)	7						M					
Chromium (mg/l or ug/l, & kg/day)	7						M					
Copper (mg/l or ug/l, & kg/day)	7						M					
Lead (mg/l or ug/l, & kg/day)	7						M					
Mercury (mg/l or ug/l, & kg/day)	7						M					
Nickel (mg/l or ug/l, & kg/day)	7						M					
Selenium (mg/l or ug/l, & kg/day)	7						M					
Silver (mg/l or ug/l, & kg/day)	7						M					
Zinc (mg/l or ug/l, & kg/day)	7						M					
Cyanide (mg/l or ug/l, & kg/day)	7						M					
Phenolic Compounds (mg/l or ug/l, & kg/day)	7						M					
All Constituents on TABLE 1A (attached)	7						see footnote 8					

**LEGEND FOR TABLE:****TYPES OF SAMPLES**

Cont = Continuous  
 C-24 = 24-hour composite  
 G = Grab sample  
 O = Observations

**TYPES OF STATIONS**

A = Treatment Plant Influent  
 E = Treatment Plant Effluent  
 C = Receiving Waters  
 L = Pond Levee Stations  
 P = Plant Perimeter Stations  
 OV = Overflow or Bypass Points

**FREQUENCY OF SAMPLING**

D = Once each day  
 W = Once each week  
 M = Once each month  
 Y = Once each year  
 E = Each event

3/W = 3 days per week  
 2H = Every 2 hours  
 3M = Every 3 months  
 3/Y = 3 days per discharge year  
 Cont = Continuous

\* NOTE: Additional specifications regarding sampling frequency are contained in the Table 1 Footnotes.

## TABLE I FOOTNOTES

- (1) This footnote has been deleted.
- (2) Indicated sampling is required during the periods when effluent is being discharged to San Pablo Bay.
- (3) Flow Rate - Effluent flows shall be measured continuously for the duration of all discharge events. The following flow information shall be reported:  

EFFLUENT: Daily: Flow Rate (MGD)  
Monthly: Average Daily Flow Rate (MGD)  
Maximum Daily Flow Rate (MGD)  
Minimum Daily Flow Rate (MGD)  
Total Flow Volume (MG)
- (4) Oil & Grease: Each Oil and Grease sample shall consist of three grab samples taken at equal intervals, no less than two hours apart, during the sampling day. Each grab sample shall be collected in a separate glass container. A composite shall be made using equal volumes of each grab.
- (5) Chlorine Residual: Monitor dechlorinated effluent (E-003-S) continuously or every two hours. Report, on a daily basis, both maximum and minimum concentrations following, dechlorination. If a violation is detected, the maximum and average concentrations and duration of each non-zero residual event shall be reported, along with the cause and corrective actions taken.  
Chlorine Dosage: Report, on a daily basis, average concentration (mg/l), and total loading (kg/day).
- (6) Bioassays: Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, and temperature.
- (7) Detection Limits: All analysis shall be performed using current EPA methods, as specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition. Further guidance on compliance and detection limits will be developed by the Regional Board and this SMP will be amended accordingly.
- (8) Selected Toxic Constituents
  - A. The initial monitoring schedule for these constituents shall be as follows:
    - a. For all constituents located in Table 2 and not Table 1 of Effluent Limitations 8. and 9. (with the exception

of TCDD equivalents\*), monitoring shall be performed monthly for six consecutive months beginning with the Fall 1992 discharge season unless the following conditions apply:

- i. For Table 2 constituents, if the first three months of monitoring indicate that the discharge may not meet the limits which will go into effect August 15, 1993, more rigorous monitoring may be required upon consultation with the Board.

\*TCDD equivalents shall be monitored twice during this initial six month survey.

B. After the initial monitoring program as specified above, the monitoring schedule thereafter shall be as follows:

- a. For those constituents that are present at concentrations at or above the effluent limit, monitoring shall be performed on a monthly basis.
- b. For those constituents that are detectable at levels below the effluent limit, monitoring shall be performed quarterly unless the following condition applies:
  - i. For those constituents that are present at levels within 20% of the effluent limit, monitoring shall be performed monthly (With the exception of TCDD equivalents which shall be performed quarterly).
  - ii. For those constituents that are present at detectable concentrations and are significantly lower than the effluent limitation, the Discharger may request approval from the Executive Officer for less frequent monitoring.
- c. For those constituents that are non-detectable, monitoring shall be twice a year (once every six months), except TCDD equivalents which shall be once a year.

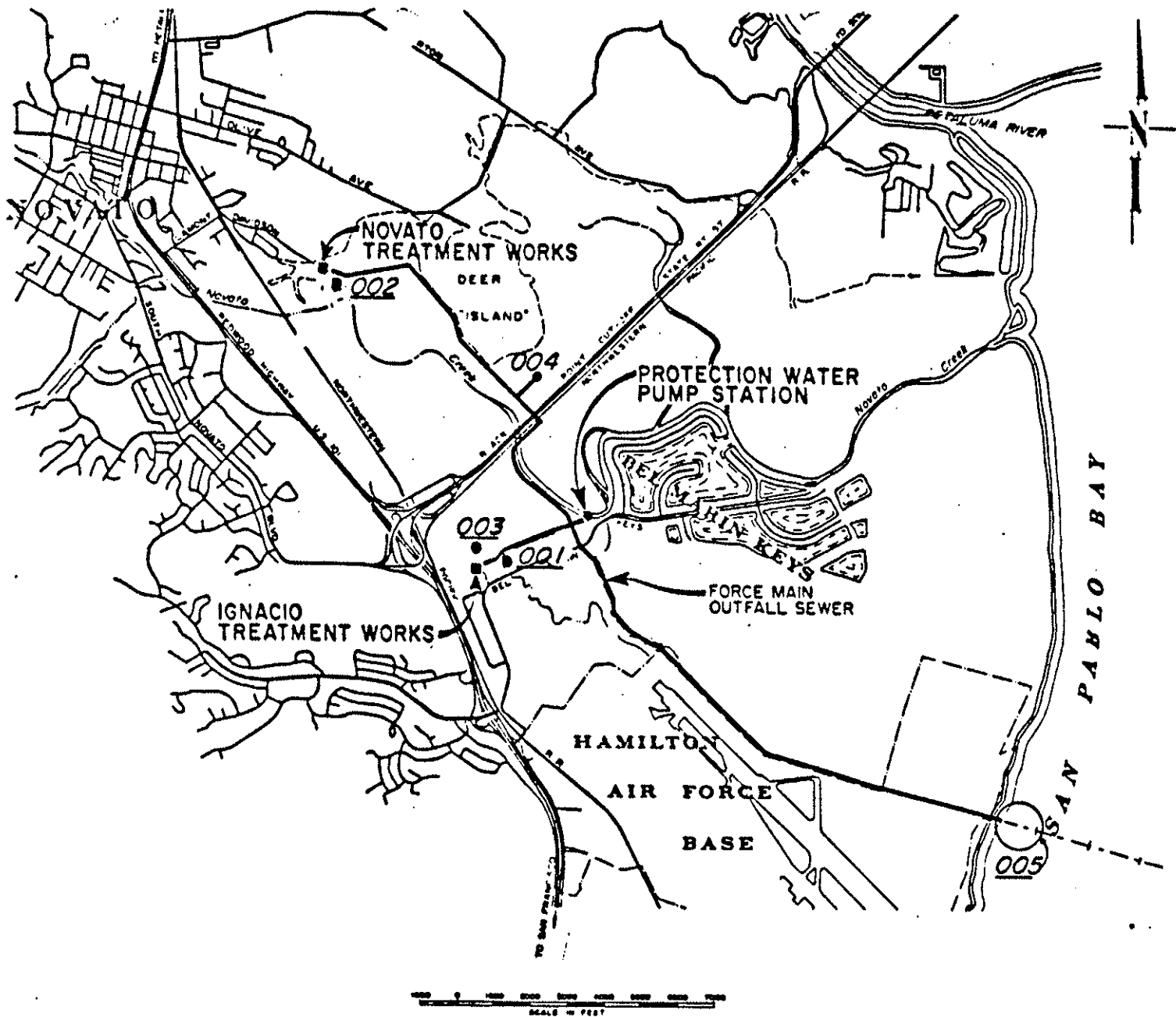
(9) Overflows:

- (a) Flow: For all overflow events greater than 1000 gallons, a best estimate of the total overflow volume (gallons) shall be reported.
- (b) BOD & Coliform: For any overflow event which involves discharge of wastewater to any surface water or waterway (including dry streams and drainage channels), grab samples shall be taken and analyzed for BOD, and both Total and Fecal Coliform.

## APPENDIX B







**LOCATION MAP**

**NOVATO & IGNACIO TREATMENT PLANTS & DISCHARGES  
NOVATO, MARIN COUNTY, CALIFORNIA**

**10-11-84**

**PAGE 1 OF 1**